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DESIGN RELEVANT RESEARCH LEADING TO PHD: IIT GUWAHATI EXPERIENCES

Debkumar Chakrabarti

*Department of Design, IIT Guwahati, Guwahati- 781 039, India. Tel: +91 361 258453, Fax: +91 361 2690762.
E-mail: dc@iitg.ernet.in*

Design has emerged as an academic subject characterising knowledge integrator which requires constant researching and an area of professional practice that cultivates multidisciplinary approach to solve a problem. It is enriched inducting relevant information from various subject domains through its journey to become a recognised field. Many design schools also have come up in India, and they are taking shape, where a demand has recently been created to become at par with the other courses where the peer group is expecting faculty with PhDs.

Thus, there is a need to pursue a research qualification, specifically PhD, aiming to cultivate newer insight in various unfolded aspects of design and in relevant areas, which is becoming these days a preferred qualification for a design teacher. Towards satisfying the qualification requirement, many design institutes have allowed their existing faculty members to undergo the PhD programme elsewhere adopting the perspectives of other discourses.

Some express concerns, if these degrees make a person more refined design practitioner or a thinker to further the design. If design schools conduct the program itself, it may have focused attention. In this attempt, for the first time in India, IIT Guwahati has opened facility with the PhD programme in a department designated to the specific cause of design, i.e., Department of Design.

To start with, training the trainer approach was taken as the first option with those faculty members have PhD in various design relevant areas in supervising fellow faculty members. Thus design teachers getting PhDs would continue with regular students and the trend has come to force.

In this paper I would like to share the experiences of nine years of journey as an initiator and supervisor in terms of the concern, detailing the specific PhD programme.

Keywords: Design, Research Leading to PhD, IIT Guwahati Experiences.

1. INTRODUCTION

It has come to fore front that an increasing awareness of the importance of good design in Indian market demands professionals equipped with relevant training. It requires both skills to practice as well as upgrade knowledge cultivation in this field. Formal design education with diploma and degrees from recognised institutes makes design professionals. It is enriched inducting relevant information from various subject domains through its journey to become a recognised field.

Whether the design domain would be practice based or will there be inputs from various disciplines concern to conduct specific researches is an issue in Indian design discourse. In many forums we discuss and still we are not in a stable state to say what would be the PhD structure in Design; specifically when the research programme is run in a department named after design. The Department of Design at IIT Guwahati promotes the idea of multidisciplinary approach as its education objectives. As the discipline grows, many design schools gradually have come up in India, and are taking shape.

A new programme offering Bachelor degree in Design started, in 1998, at IIT Guwahati for the first time in India. To keep parity with already existing Masters Degree in Design (MDes) programmes in other IITs and similar nature institutes (without having a Bachelor programme in Design), the programme at IIT Guwahati was termed as BDes (Bachelor of Design) instead of BTech (Bachelor of

Technology) in Design though the entry is through common IIT-JEE (Joint Entrance Examination) for all engineering disciplines.

MDes programme started in 2007 where entry is through IIT-CEED examination (Common Entrance Examination in Design) which is normally followed by all MDes programmes in country. Students come from various backgrounds. Basic objectives of the two programmes characterised as integrator of multidisciplinary knowledge and skill to make design professionals.

Like first to start BDes, IIT Guwahati, from its Department of Design, is the one to start PhD programme in India to conduct higher knowledge cultivation in design relevant fields in 1999 (which was initiated by the author of this paper). It started with initial emphasis on Ergonomics and Human Factors relevance in Design which has now spread over to various aspects of design relevance topics and framed the PhD programme structure according to conventional approach.¹ As it is from a department named after discipline of Design, the degree offers PhD in Design and the thesis title is mentioned in the certificate to express the field expertise. The degree offered here is equivalent to engineering degree.

Layout of this Paper

This paper discusses the system IIT Guwahati has adopted and intends to share its state of the art status and concerns which are experienced so far, since initiating and conducting PhD programme in the field of Design.

2. DESIGN RELEVANT RESEARCH AND PHD: CONCERNS FACED

Design research supports various design applications with relevant facts and aspects. It experiences applications as well as studying relevant fundamental aspects and facts in depth, whereas Bachelor and Masters Degree students input goes broad based. Unlike other disciplines of Science and Engineering where undergraduates of same disciplines (as basic prerequisite) come for Masters Degree where advanced level input is possible; Masters students for Design are coming from varied background (not necessarily having undergraduate qualification in Design) their programmes deal with broad base general input.

Designers do practice-led research and research by design; design by research is where research findings of relevant fields confirm applications in design. Need based input and use of relevant information from different disciplines for designers concern with a mutual understanding towards application. As the discipline grows, design schools have come up with diverse emphasis. Now, a demand to acquire higher academic qualifications over the Masters Degree to become faculty member in design fields as well has surfaced up gradually.

There are differences of opinion about the research need for designers and an academic programme leading to a PhD degree. Whether the qualification makes a person better teacher of design; if it makes a person more refined design practitioner or a thinker to further the design; if this PhD dilutes the design practice when the research is done in a non-design ambience. To cultivate relevant themes that are explored and findings are used to shape a new identity for design, could be a field of research in design. In such context if design schools conduct the programme itself it may have focused attention. Reference of NID (National Institute of Design, Ahmedabad) can be cited here because most of the established design teachers and professionals in country have influence of NID experiences in some way or the other.

A concern may be cited as Prof. MP Ranjan of NID² mentions in many occasions (and opinion expressed over net publications) about “Design as research: Path to knowledge creation and critical insights” where quality design research is already embedded in design process. Today it is a fact that, many design schools and University departments are asking their teachers to acquire PhD qualifications. Almost all of the candidates are required to go outside the design discipline to make the transition to a higher qualification and that is linked with promotion. It is also expressed that “there is little appreciation of the inherent research capacities that are embedded in the design process itself and most designers are required to wander outside their core areas of competence in search of a PhD qualification to further their career as a teacher in design”.

The author of this deliberation had the opportunity to work as a faculty member at National Institute of Design more than a decade, and in many occasions has expressed to open up the matter of research leading to any kind of academic recognition. NID with its affiliation to Ministry of Industry, if Fellow programme in tune to PhD could be initiated to suite the need. Not much encouragement with the then strength could be achieved. Now it has allowed its faculty members to go for PhD registering with other institutions in relevant areas.

Training without any academic goal or self learning to become a practicing professional may not always be targeting to achieve the quality. While doing PhD work a person acquaints in-depth knowledge, understanding and appreciation of the specific field.³ Through carrying out related work and critical analysis following scientific methodology⁴ and justifying the importance and relevance contributes incremental improvement on the state of the art. The whole work is based on a theme. Through PhD programme a person pursues to acquire this quality. One demonstrates mastery of a given subject and to become a teacher it would be relevant and motivating to students. It creates a mind set.

While doing projects, the research done is to acquire the information that is required to attain the project goal, where there may not be sufficient critical analysis or scientific methods followed. The thesis matter has to be disseminated and loopholes are rectified with feedbacks from experts and peer group. Unlike confidentiality is maintained while practicing design where the research results used remain as supportive facts. With the above background, IIT Guwahati has started PhD in Design programme and below mentioned the present status.

2.1. Input Emphasis to the Programmes and Progress Monitoring at IITG

Input emphasis in IIT Guwahati programme is on three specific areas, i.e. Industrial Design (ID), Communication Design (CD) and Ergonomics and Human Factors (along with some relevant input of Humanities and Social Sciences, and engineering).

BDes and MDes programmes cover syllabuses with theory and hands on experience in all the three together with equal weight and specific emphasis on ID and CD, through various levels of projects to make designers fit for professionals to practice. Whereas, the PhD programme leads to develop specialised knowledge domain, and this requires catering both the interests of students and expertise available in Department from various subject domains of relevant areas of research.

For its PhD programme, IIT Guwahati offers few course inputs, rather fixed courses to all entrants; the input is customized.⁵ At the beginning of the programme, students are offered four to six courses (credit 24 to 36) from a list of approved higher level courses (selection of courses from Masters level also offered if necessary) that suit to their field of expertise and to enhance their specific interest to make them fit to carryout the thesis work instead of offering a fixed list of courses as used for to BDes and MDes programmes.

For Bachelors degrees and Masters degrees (may be of Design or others) who spent academic years of study upto 5 years in total (BTech equivalent of 4 years or having MSc with Bachelor of 3 years and MSc/Ms of 2 Years) need to go through 6 credit courses of total 36 credits prior to PhD thesis work. Those who have undergone 6 years of academic programme (Bachelor 3 + Masters 3 or Bachelor 4 + Masters 2) need to go through 4 courses for total 24 credits. On successful completion of the course work, the student carries out main thesis work. A doctoral committee is constituted from the faculty members which includes supervisor (and co-supervisor if any) to monitor the progress of the doctoral student; student is also given a choice of selecting his supervisor.

2.2. Training the Trainer Approach

While doing thesis work a researcher becomes so involved that he requires external advice to know how to proceed and when to stop and someone to constantly monitor the progress, and this advice comes from experienced supervisors. Thus persons having PhD themselves can offer guidance to the students. To initiate the programme, training the trainer approach considered being the first option, and thus IITGuwahati has started offering its design faculty to undergo this programme, and in turn they can continue with regular students as well.

Thus accounting the need, and scarcity of getting PhD holder teachers in design to be supervisors, many design institutes have allowed their faculty members to undergo the PhD programme in other organizations. Instead of asking faculty members to get PhD from other institute and guide design students for PhD, Department of Design at IIT Guwahati, has decided to follow the training the trainer approach. And initially the present author being the lone PhD degree holder (Ergonomics specialisation from Calcutta University and having working experience of a faculty member at NID for 12 1/2 years) took the lead since 1998 and eventually became supervisor for two fellow faculty members of the same department.

The doubt have also been expressed that if being the supervisor from ergonomics background if these two faculty members would choose ergonomics as the thesis topic. This was clarified that their thesis would cover their own specialized area, i.e., communication design and product design aspects. As expected these faculty members are continuing the PhD programme (after being awarded themselves PhD) by intake of fresh students. In this process some more in-house faculty members have also got enrolled in the programme to upgrade their respective academic qualifications.

Another concern, if non-design degree faculty members guide design faculties then whether dilution would take place; in this debate in and out our department, finally we have decided, experts and intended students with relevant fields should be considered, topic may be selected with a broad base. Degree will be offered as they are enrolling in Department of Design as PhD in design mentioning their thesis title if any one wishes to claim thesis area as his expertise.

2.3. IDC, IIT Bombay Added Strength to the Concern for PhD Programme: A Case to Compare

IDC (Industrial Design Centre) of IIT Bombay, in 2006, opened up PhD programme with intake both from in-house faculty members (to uplift their qualification) and other students afresh with varied trade and affiliation which includes NID qualification. At present it appears, a mixed approach of developing own faculty members as well as students, creating next generation design teachers would be appropriate; where instead of looking into only design degree as prerequisite, all relevant areas be nourished to have the disciplines wider enrichment. Associate Professor onward rank holders (irrespective of having PhD degree themselves) are engaged in guiding PhD students.

The programme requires undergoing a 24 credit course by a student prior to start thesis work, (i.e., 20 credits in first semester, which includes a mini project and in second semester another mini project of 4 credits). All students do undergo the prescribed courses as equal prerequisite.

3. DEPARTMENT OF DESIGN, IITGUWAHATI: PRESENT STATUS

- The very first of its PhD candidate of the Department of Design (Department of Design) registered with the present author, in 1999, in the area of human vertical movement and design applications.
 - There after among ongoing and enrolled students, below mentioned three got awarded from IIT Guwahati which bears mentioning PhD in Design and the thesis title to specify the field of thesis work.
- 1 In the area of Communication Design; awarded PhD degree in September 2007, title A Study on Design Elements in craft Practices with Special Reference to Textile and Basketry of Northeast India.⁶
 - 2 In the area of Industrial Design and Management; awarded PhD degree in April 2008, title Design Development of an Indigenous Tricycle Rickshaw.⁷
 - 3 In area of Ergonomics and Human Factors (specifically Design and Occupational Ergonomics); awarded PhD degree in July 2008, title Study on work posture and muscle load of cane and brass-metal artisans of Assam, intending to reduce occupational stress with relevant design solutions: An Ergonomics intervention.⁸

Thesis work dealing with aspects of form perception has been completed by another faculty member and cultural semiotics is another field of thesis work by an ex-BDes student of Department of Design is almost completed. New two more in-house faculty members have started the programme and three others who are faculty members of relevant disciplines e.g., with fine arts, management and home science background serving in other institutes of the Northeastern region have also joined in the programme and they are distributed to all the faculty members who have completed their PhD programme from this department. Thus specific flow with area concern is expected to strengthen.

4. CONCLUSION

Initiation leads towards taking a shape now. With the above experience new students are being enrolled where all the supervisors would be PhD degree holders; thus the journey initiated with training the trainer approach would continue with fresh students. Through use of appropriate tools and techniques and themes that are being explored and the findings would shape a new identity of research in the field. It can be said that the ball has already started rolling and on the journey it would be enriching on its way. The department is equipped with experiences of total 11 different PhD topics (including currently 5 fresh registered doctoral students).

With the above experience, where normally candidates from the same discipline mostly enroll for PhD can be said homogeneous group entry and in the Design discipline due to its multidisciplinary approach, we should encourage heterogeneous (from various related fields) entry to the PhD programme. It can be said that the design PhD programme of IIT Guwahati advocates that PhD degree in design tunes a person to a maturity level where he is independent to think about “Why” and also get ways to execute the “How”. Where as degree of Bachelor and Masters mostly should devote to skill perfection to satisfy the present need and act as prerequisite ground work for research.

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